(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
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28 March 2002 (28.03.2002)

PCT

(10) International Publication Number
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(21) International Application Number: PCT/US01/29494

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09/668,828 22 September 2000 (22.09.2000) US

(71) Applicant: **INVESTORTREE.COM, INC.** [US/US]; 38 Milburn St., Suite 200, Bronxville, NY 10708 (US).

(72) Inventors: **WOLFSON, Jonathan**; 220 West 104th Street-Apt 5, New York, NY 10025 (US). **GOLDMAN, Neil**; 75 West End Avenue-P23F, New York, NY 10023 (US). **REITZEL, Christopher**; 1366 York Ave-Apt 2A, New York, NY 10021 (US). **KIRSCH, Jeremy**; 15 Salem Ridge Drive, Huntington, NY 11743 (US).

(74) Agent: **GOLDBERG, Daniel, S.**; Dechert, P.O. Box 5218, Princeton, NJ 08543 (US).

(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
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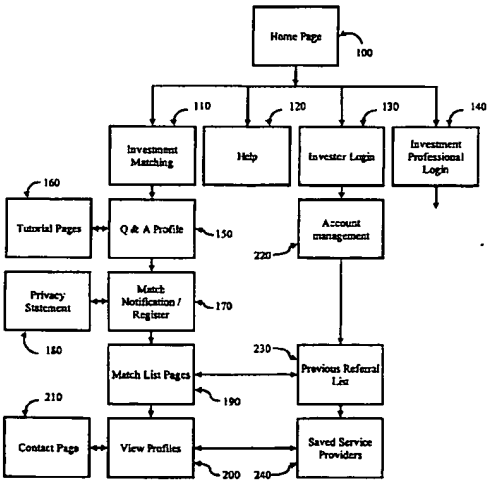
For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: INVESTMENT REFERRAL SYSTEM AND METHOD



(57) Abstract: The invention provides an impartial forum operable to match investors with a universe of investment service providers, and matches both investors and service providers with a universe of financial resources and alternative investments. One or more service provider profiles each having at least one credential are compiled. The credentials of each of the service provider profiles are verified and service provider profiles having credentials that cannot be verified are identified. One or more verified service provider profiles are compiled. At least one insurance policy is obtained insuring that the credentials of each of the verified service provider profiles are correct. At least one customer profile is received and at least one verified service provider profile that generally corresponds to the customer profile is identified. Resource and alternative investment profiles generally corresponding the service provider and investor profiles can also be identified. A tiered matching system can be used to match user profiles to service provider, resource and/or alternative investment profiles.

WO 02/25404 A2

23/3,K/50 (Item 50 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014081096 **Image available**
WPI Acc No: 2001-565310/200163
XRPX Acc No: N01-420879
Enabling method for selective access **to** personal **information on one or more Internet subscriber's web pages** personalizing **a web page based on a matching of visitor** access level **with subscriber** profile
Patent Assignee: TRULYGLOBAL INC (TRUL-N)
Inventor: KIMCHI G; LUZZATTI O; RABBAN A; SHEM TOV O
Number of Countries: 094 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200159621	A2	20010816	WO 2001US3924	A	20010207	200163 B
AU 200134897	A	20010820	AU 200134897	A	20010207	200175

RELATED FACE-PAGE BENEATH

Priority Applications (No Type Date): US 2000180942 P 20000208
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200159621	A2	E	26	G06F-017/30	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200134897 A G06F-017/30 Based on patent WO 200159621
Enabling method for selective access **to** personal **information on one or more Internet subscriber's web pages** personalizing **a web page based on a matching of visitor** access level **with subscriber** profile

Abstract (Basic):
... involves providing one or more subscriber web pages. The web pages are located on the **world** wide web or Internet. A subscriber **profile** is received w.r.t. at least a first of the web pages. The subscriber **profile** includes at least **access** restrictions. The first web page, based on the subscriber **profile** , comprises **personalized** combinations of: static information, dynamic information, locator information and **communications access** . An **access level** of the visitor is determined. A web page is **personalized** based on a **matching** of visitor **access level** with the subscriber **profile** .

...Title Terms: **MATCH** ;
International Patent Class (Main): **G06F-017/30**

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(43) International Publication Date
16 August 2001 (16.08.2001)

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(21) International Application Number: PCT/US01/03924

(22) International Filing Date: 7 February 2001 (07.02.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/180,942 8 February 2000 (08.02.2000) US

(71) Applicant *(for all designated States except US)*: **TRULY-GLOBAL INC.** [US/US]; One Executive Drive, Suite 320, 3rd Floor, Fort Lee, NJ 07024 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **SHEM TOV, Ofer** [IL/IL]; Hadekalim 14, 52532 Ramat Gan (IL). **RABBAN, Ariel** [US/US]; 27 Sycamore Terrace, Livingston, NJ 07039 (US). **KIMCHI, Gur** [IL/US]; Apartment 5C, 44 East 12 Street, New York, NY 10003 (US). **LUZZATTI, Omer** [IL/US]; 32 Gramercy Park South, Apartment 5C, New York, NY 10003 (US).

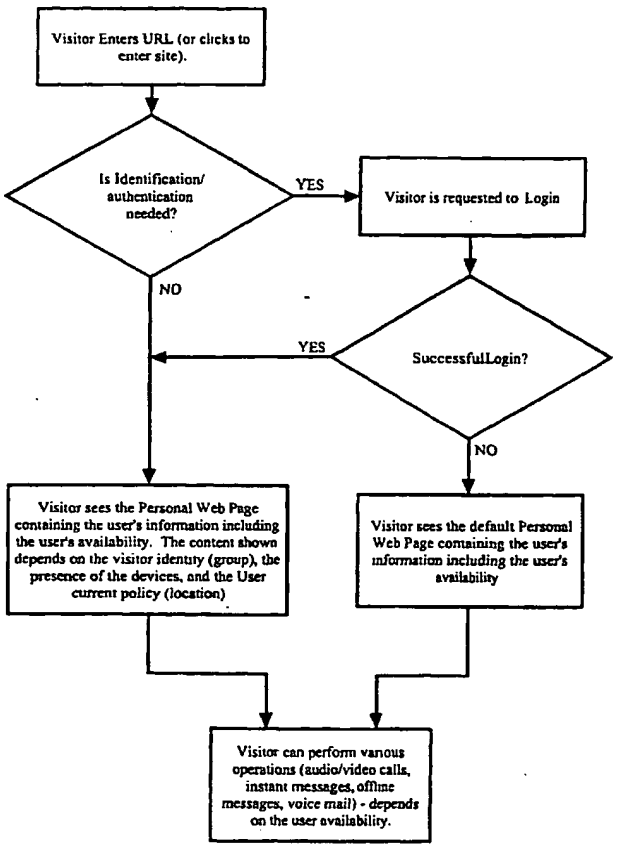
(74) Agents: **HELFGOTT, Samson** et al.; Helfgott & Karas, P.C., Suite 6024, 350 Fith Avenue, New York, NY 10118 (US).

(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian

[Continued on next page]

(54) Title: PERSONALIZED VISITOR PAGES



(57) Abstract: A method to allow Internet service subscribers to expose a person-specific personalization of their "visitor web pages". This service allows a subscriber to build a dedicated web page that is specifically assembled for another person. A visitor, upon accessing the web page, has the capability to review static and dynamic information or to call the subscriber using multimedia communications such as Voice-over-IP or send the subscriber information. The page may contain information that is made available only to the subscriber's family, such as the current active policy of the subscriber and the phone number that is closest to him. Such information is made available via the subscriber's policy.

WO 01/59621 A2

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Set     Items   Description
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             OR REQUIREMENT? OR QUALIFICATION? OR ATTRIBUTE? OR REQUISIT?)
S2      79489   SEARCH?(7N)(PROFILE? OR TARGET? OR CONTACT? OR STENCIL? OR
            TEMPLAT? OR INFO OR INFORMAT? OR DATA)
S3       4314   (PROFIL? OR TARGET? OR CONTACT? OR STENCIL? OR TEMPLAT? OR
            CHARACTERISTIC? OR ATTRIBUT?)(7N)(PERSONALIZ? OR PERSONALIS? -
            OR CUSTOMIZ? OR CUSTOMIS? OR INDIVIDUALIZ? OR INDIVIDUALIS?)
S4        183   (PROFIL? OR TARGET? OR CONTACT? OR STENCIL? OR TEMPLAT? OR
            CHARACTERISTIC? OR ATTRIBUT?)(7N)(CUSTOM OR TAILOR)()(MAKE? OR
             MAKING? OR MADE?)
S5     287514   (POTENTIAL? OR PROSPECTIV? OR PROFIL?)(7N)(TARGET? OR CONT-
            ACT? OR PROFIL?)
S6      41962   REFERRAL? OR RECOMMENDAT? OR SPEAK?(2W)(HIGHLY? OR WELL) OR
             TESTIMONIAL? OR LETTER?(2W)INTRODUCT? OR COMPLIMENT? OR PRAI-
            SE? OR HIGH()MARK?
S7     316245   MATCH? OR BROKER? OR (BRING? OR BRUNG? OR BROUGHT? OR LINK?
             OR JOIN?)()TOGETHER?
S8    1060850   CONNECT?
S9    1292222   COUPL? OR MATE? OR MATING?
S10     44312   SPECIF?(3N)CONNECT? OR DEGREE?(2W)SEPARAT? OR CONTROL?(3N)-
            INTERACT? OR NETWORK?(2N)(CHAIN? OR CONCATENAT?)
S11      5528   (ACCESS? OR CONTACT? OR COMMUNICAT? OR INTERPERSONAL?)(5N)-
            (LEVEL? OR PERMISS? OR PERMIT? OR HIERARCH? OR CONTROL?)(7N)(-
            PRIVAT? OR DISCREET? OR PERSONAL? OR P2P OR PERSON(2W)PERSON -
            OR PEER(2W)PEER OR (SHARE? OR SHARING)(2W)(OTHER? OR ANOTHER?-
            ))
S12    185954   S1:S11(10N)(COMPUTER? OR NETWORK? OR SERVER? OR WORKSTATIO-
            N? OR DESKTOP? OR INTERNET? OR ONLINE? OR SOFTWARE? OR WEBSIT-
            E? OR WORLD()WIDE()WEB)
S13    142926   IC=G06F?
S14      9166   S1 AND S2:S5
S15      6592   S14 AND S12 AND S7:S9
S16      1177   S15 AND S10:S11
S17      6592   S15:S16
S18      3090   S17 AND S1:S5(10N)S7:S9
S19      3090   S18 AND S12:S13
S20       665   S19 AND S10:S11
S21       405   S20 AND S1:S5(10N)(COMPUTER? OR NETWORK? OR SERVER? OR WOR-
            KSTATION? OR DESKTOP? OR INTERNET? OR ONLINE? OR SOFTWARE? OR
            WEBSITE? OR WORLD()WIDE()WEB)
S22       154   S21 AND S6
S23       242   S21 AND S1(10N)S2:S5
S24       197   S23 AND S13
S25       270   S22 OR S24
S26    944772   AD=2001:2005
S27       150   S25 NOT S26
S28       150   IDPAT (sorted in duplicate/non-duplicate order)
? show files
File 348:EUROPEAN PATENTS 1978-2005/Apr W03
        (c) 2005 European Patent Office
File 349:PCT FULLTEXT 1979-2005/UB=20050421,UT=20050414
        (c) 2005 WIPO/Univentio
?
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28/3/4 (Item 4 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

01752676
Systems and methods for secure transaction management and electronic rights protection
Systeme und Verfahren zur gesicherten Transaktionsverwaltung und elektronischem Rechtsschutz
Systemes et procedes de gestion de transactions securisees et de protection de droits electroniques
PATENT ASSIGNEE:
ELECTRONIC PUBLISHING RESOURCES, INC., (976840), 460 Oakmead Parkway, Sunnyvale, CA 94086-4708, (US), (Applicant designated States: all)
INVENTOR:
Ginter, Karl L., 10404 43rd Avenue, Beltsville Maryland 20705, (US)
Shear, Victor H., 5203 Battery Lane, Bethesda Maryland 20814, (US)
Spahn, Francis J., 2410 Edwards Avenue, El Cerrito California 94530, (US)
van Wie, David M., 1250 Lakeside Drive, Sunnyvale California 94086, (US)
LEGAL REPRESENTATIVE:
Smith, Norman Ian et al (36041), fJ CLEVELAND 40-43 Chancery Lane, London WC2A 1JQ, (GB)
PATENT (CC, No, Kind, Date): EP 1431864 A2 040623 (Basic)
EP 1431864 A3 050216
APPLICATION (CC, No, Date): EP 2004075701 960213;
PRIORITY (CC, No, Date): US 388107 950213
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
RELATED PARENT NUMBER(S) - PN (AN):
EP 861461 (EP 96922371)
INTERNATIONAL PATENT CLASS: **G06F-001/00 ; G06F-017/60**
ABSTRACT WORD COUNT: 151
NOTE:
Figure number on first page: 77

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200426	1450
SPEC A	(English)	200426	166929
Total word count - document A			168379
Total word count - document B			0
Total word count - documents A + B			168379

RELATED Doc. BELOW

(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 431 864 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
23.06.2004 Bulletin 2004/26

(51) Int Cl.[7]: **G06F 1/00**

(21) Application number: **04075701.5**

(22) Date of filing: **13.02.1996**

(84) Designated Contracting States:
AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE

(30) Priority: **13.02.1995 US 388107**

(62) Document number(s) of the earlier application(s) in accordance with Art. 76 EPC:
96922371.8 / 0 861 461

(71) Applicant: **ELECTRONIC PUBLISHING RESOURCES, INC.**
Sunnyvale, CA 94086-4708 (US)

(72) Inventors:
- **Ginter, Karl L.**
  Beltsville Maryland 20705 (US)
- **Shear, Victor H.**
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- **Spahn, Francis J.**
  El Cerrito California 94530 (US)
- **van Wie, David M.**
  Sunnyvale California 94086 (US)

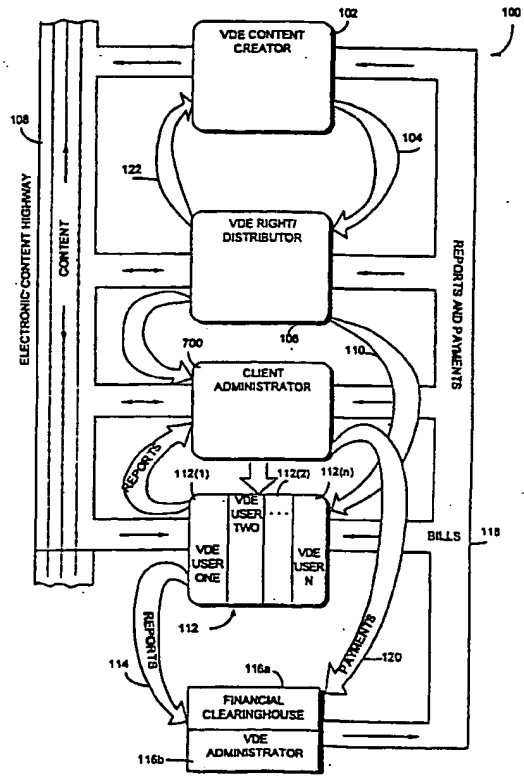
(74) Representative: **Smith, Norman Ian et al**
fJ CLEVELAND
40-43 Chancery Lane
London WC2A 1JQ (GB)

Remarks:
This application was filed on 04 - 03 - 2004 as a divisional application to the application mentioned under INID code 62.

(54) Systems and methods for secure transaction management and electronic rights protection

(57) The present invention provides systems and methods for secure transaction management and electronic rights protection. Electronic appliances such as computers equipped in accordance with the present invention help to ensure that information is accessed and used only in authorized ways, and maintain the integrity, availability, and/or confidentiality of the information. Such electronic appliances provide a distributed virtual distribution environment (VDE) that may enforce a secure chain of handling and control, for example, to control and/or meter or otherwise monitor use of electronically stored or disseminated information. Such a virtual distribution environment may be used to protect rights of various participants in electronic commerce and other electronic or electronic-facilitated transactions. Distributed and other operating systems, environments and architectures, such as, for example, those using tamper-resistant hardware-based processors, may establish security at each node. These techniques may be used to support an all-electronic information distribution, for example, the utilizing the "electronic higher".

FIG. 77



EP 1 431 864 A2

28/3/48 (Item 48 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00787037 **Image available**
METHOD AND SYSTEM FOR NETWORK **-BASED DECISION PROCESSING AND FOR** MATCHING **REQUESTS FOR PROPOSALS TO RESPONSES**
PROCEDE ET SYSTEME POUR LE TRAITEMENT DE DECISIONS SUR UN RESEAU ET POUR L'ADAPTATION DES DEMANDES DE PROPOSITIONS AUX RESULTATS

Patent Applicant/Assignee:
EC-ASCENT IP HOLDING CORPORATION, 75 9th Avenue, 6th floor East, New York, NY 10011, US, US (Residence), US (Nationality)
Inventor(s):
SAATY Daniel L, 600 North Roosevelt Blvd. #415, Falls Church, VA 22044, US,
LISCO Donald A, 520 Margaret Drive, Silver Spring, MD 20910, US,
FORMAN Ernest H, 1438 Ironwood Drive, McClean, VA 22101, US,
HOCHBERG Steven I, P.O. Box 39, South Kent, CT 06785, US,
Legal Representative:
COGGIO Brian D (et al) (agent), Pennie & Edmonds LLP, 1155 Avenue of the Americas, New York, NY 10036, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200120530 A1 20010322 (WO 0120530)
Application: WO 2000US25506 20000915 (PCT/WO US0025506)
Priority Application: US 99396215 19990915; US 2000201526 20000502
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 28450

RELATED DOC. BENEATH

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International Bureau

(43) International Publication Date
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(21) International Application Number: PCT/US00/25506

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15 September 2000 (15.09.2000)

(25) Filing Language: English

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09/396,215 15 September 1999 (15.09.1999) US
60/201,526 2 May 2000 (02.05.2000) US

(71) Applicant: **EC-ASCENT IP HOLDING CORPORATION** [US/US]; 75 9th Avenue, 6th floor East, New York, NY 10011 (US).

(72) Inventors: **SAATY, Daniel, L.**; 600 North Roosevelt Blvd. #415, Falls Church, VA 22044 (US). **LISCO, Donald, A.**; 520 Margaret Drive, Silver Spring, MD 20910 (US). **FORMAN, Ernest, H.**; 1438 Ironwood Drive, McClean, VA 22101 (US). **HOCHBERG, Steven, I.**; P.O. Box 39, South Kent, CT 06785 (US).

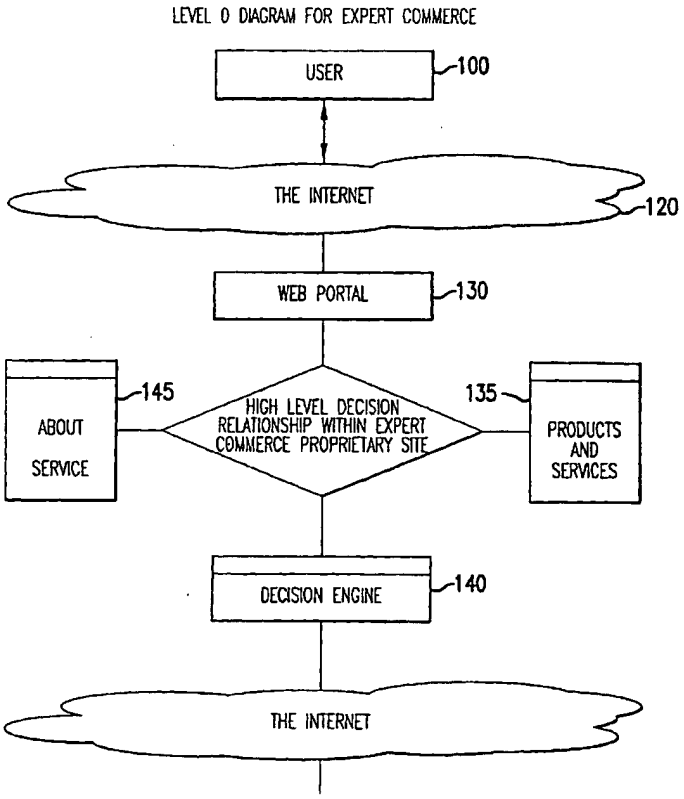
(74) Agents: **COGGIO, Brian, D.** et al.; Pennie & Edmonds LLP, 1155 Avenue of the Americas, New York, NY 10036 (US).

(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European

[Continued on next page]

(54) Title: METHOD AND SYSTEM FOR NETWORK-BASED DECISION PROCESSING AND FOR MATCHING REQUESTS FOR PROPOSALS TO RESPONSES



(57) Abstract: A method of assisting a user over a network (120) that enables users to evaluate various products and services (135) (collectively "products") is provided. The products are described in one or more dynamically generated data table accessible through the network. In a preferred embodiment, a user provides over the network filtering decisions that enable the system to filter product records to identify a subset of relevant products. In addition, the user preferably performs graphical pairwise comparisons of the characteristics of the desired product to indicate the relative importance of such characteristics creating a unique user profile or a user may choose a predefined profile which corresponds to their user group. The data generated as a result of the pairwise comparisons is converted into weights by applying an analytic hierarchy process to create an accurate user profile which is used to rank a set of alternatives. The system applies the profile to perform synthesis to rank the products with respect to the user's wants and needs.

WO 01/20530 A1

28/3/69 (Item 69 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00777021
A SYSTEM, METHOD AND ARTICLE OF MANUFACTURE FOR AN E-COMMERCE BASED USER FRAMEWORK DESIGN FOR MAINTAINING USER PREFERENCES, ROLES AND DETAILS
SYSTEME, PROCEDE ET ARTICLE MANUFACTURE UTILISES EN COMMERCE ELECTRONIQUE POUR LA CONCEPTION DE STRUCTURES D'UTILISATEURS DESTINEES A PRESERVER LES PREFERENCES, ROLES ET DETAILS DES UTILISATEURS
Patent Applicant/Assignee:
ACCENTURE LLP, Parkstraat 83, NL-2514 JG 's Gravenhage, The Hague, NL, NL (Residence), NL (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
UNDERWOOD Roy A, 4436 Hearthmoor Court, Long Grove, IL 60047, US, US (Residence), US (Nationality), (Designated only for: US)
Legal Representative:
HICKMAN Paul L (agent), Oppenheimer Wolff & Donnelly LLP, 1400 Page Mill Road, Palo Alto, CA 94304, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200109792 A2-A3 20010208 (WO 0109792)
Application: WO 2000US20549 20000728 (PCT/WO US0020549)
Priority Application: US 99364091 19990730
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 122232

RELATED DOC. BELOW

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
8 February 2001 (08.02.2001)

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(10) International Publication Number
WO 01/09792 A2

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(21) International Application Number: PCT/US00/20549

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(25) Filing Language: English

(26) Publication Language: English

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09/364,091 30 July 1999 (30.07.1999) US

(71) Applicant *(for all designated States except US)*: AC PROPERTIES BV [NL/NL]; Parkstraat 83, NL-2514 JG 's Gravenhage, The Hague (NL).

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: UNDERWOOD, Roy, A. [US/US]; 4436 Hearthmoor Court, Long Grove, IL 60047 (US).

(74) Agent: HICKMAN, Paul, L.; Hickman Coleman & Hughes, LLP, P.O. Box 52037, Palo Alto, CA (US).

(81) Designated States *(national)*: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW.

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Published:
— *Without international search report and to be republished upon receipt of that report.*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 01/09792 A2

(54) Title: A SYSTEM, METHOD AND ARTICLE OF MANUFACTURE FOR AN E-COMMERCE BASED USER FRAMEWORK DESIGN FOR MAINTAINING USER PREFERENCES, ROLES AND DETAILS

(57) Abstract: A system, method and article of manufacture are provided for managing user information. A site server is provided with information stored thereon including preferences, roles, and details relating to users. A database separate from the site server is also provided. The database has information stored thereon including preferences, roles, and details relating to the users. An identity of one of the users is authenticated. A single interface is displayed which provides the user access to both the site server and the database upon authentication of the identity of the user. The user is allowed to view and change the information that is stored on the site server and the database and that is associated with the user. The single interface is tailored based on the information associated with the user.

DECENT REFERENCE

28/3/87 (Item 87 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00757090 **Image available**
ONLINE METHOD AND COMPUTER SYSTEM
PROCEDE EN LIGNE ET SYSTEME INFORMATIQUE

Patent Applicant/Assignee:
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Patent and Priority Information (Country, Number, Date):
Patent: WO 200070470 A1 20001123 (WO 0070470)
Application: WO 2000US13189 20000512 (PCT/WO US0013189)
Priority Application: US 99134099 19990514
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 8174

RELATED DOCUMENTS BENEATH

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : G06F 13/00 | A1

(11) International Publication Number: **WO 00/70470**

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60/134,099 14 May 1999 (14.05.99) US

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(74) Agent: LIMBACH, George, C.; Limbach & Limbach L.L.P., 2001 Ferry Building, San Francisco, CA 94111 (US).

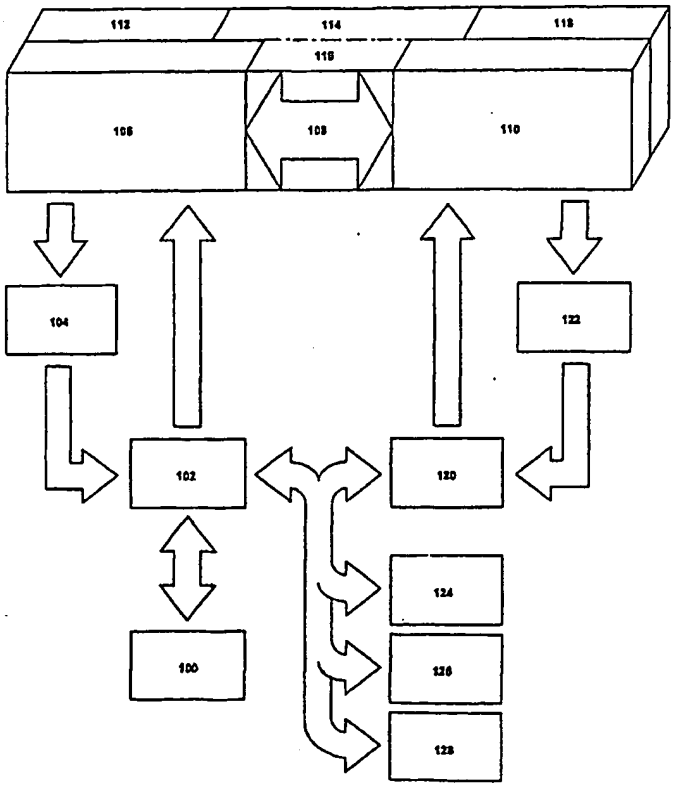
(81) Designated States: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published
With international search report.

(54) Title: ONLINE METHOD AND COMPUTER SYSTEM

(57) Abstract

The present invention relates to an integrated on-line method and computer system for providing an Internet-linked database of client information, for publishing portions of this information on individual, semi-custom client web sites, for translating predetermined portions of this information into specific formats as required by designated recipients, and for transmitting the translated information via the Internet (102) or private communication channels (120) to these designated recipients. The web site publication (106) is linked to the creation of an electronically readable user information database (114) which can submit data to third party systems, including where the user is a job seeker, job matching systems to correlate job requirements with job seeker skills.



WE CLAIM:

1. A computerized system integrating publication of a user web site with the automated submission of information to multiple recipients, said system comprising:

a) a web site publisher interactively designing and publishing a web site for said user, said web site displaying profile information provided by said user and being individually addressable by a uniform resource locator from a remote internet terminal;

b) an electronically readable database;

c) a parser to direct said profile information into said electronically readable database

d) a means for said user to designate a recipient of said profile information;

e) a translation engine operating upon said database and converting said profile information into output data; wherein said output data is formatted and organized according to the system requirements of a designated recipient;

f) a means of electronically transmitting said output data to said designated recipient.

2. A system according to claim 1, wherein said web site publisher provides user with web design objects and templates options, whereby

said user can control the appearance and information content of said web site.

3. A system according to claim 1, wherein said means of transmitting is via the internet or a private communication interface.

4. A system according to claim 1, wherein said user seeks a job and said designated recipient seeks to fill a job.

5. A system according to claim 1, wherein the user is a job seeker and the designated recipient is an on-line or employer job board.

6. A system according to claim 1, wherein said specifically formatted output data includes the uniform resource locator address of said web site.

7. A system according to claim 1, wherein said web publisher provides said user with template questions specific according to their user profile.

8. A system according to claim 1, wherein the profile information provided by said user relates to a particular interest of said user which is complementary to the interests of said multiple recipients.

9. A system according to claim 1, further comprising a user workstation providing a user email account to support the communications of said user with said system and said recipients.

10. A system according to claim 9, wherein said user workstation is the communications port for the user to provide and update data; and create, publish and revise their web sites.

11. A system according to claim 1, wherein said designated recipient is a printer of stationary or business cards.

12. A system according to claim 4, wherein said web site publisher provides templates and graphic objects according to the user profile.

13. A system according to claim 8, wherein said particular interest is professional, commercial, intellectual, legal, medical, educational, or personal in nature.

14. A method for integrated publication of a user web site and distributing user information to multiple recipients, said method comprising the steps of:

a) communicating with said user via the internet and thereby receiving profile information;

b) publishing said information on a web site, wherein said web site is individually addressable using a uniform resource locator from a remote internet terminal;

c) storing said information in an electronically readable database;

d) accessing said database and translating said stored information into a format according to the system requirements of a recipient designated by said user;

e) transmitting said translated information to said designated recipient.

15. A method according to claim 14, wherein said publishing incorporates web design objects and custom audio, video, graphics, and career-guided textual data according to information and instructions from said user.

16. An online, computerized system integrating publication of a user web site, the provision of an electronically readable database, and the automated provision of data to multiple partners, said system comprising:

a) a web-based public request broker for managing communications with said user; said broker to determine the access privileges and to receive said personal profile information and instructions from said user;

b) a web site publisher providing a plurality of web site graphical templates and profile design options for the display of said information, wherein said publisher designs and posts said web site according to said information and instructions;

c) a parser directing said information into an electronically readable database;

d) a partner request broker for managing communications and data exchange with said partners; said request broker to determine the access privileges and file sharing protocols of said partners;

e) an engine to search the contents of said database according to information provided by said partners.

17. A computer-based system according to claim 16, wherein said web site publisher integrates a pre-defined set of web design objects and custom audio, video, graphics, and textual data in order to create semi-custom designed personal resume web sites.

18. A computer-based system according to claim 16, wherein said request broker communicates with said partner over the internet or via a private communication interface.

19. A computer based system according to claim 16, wherein said user is a job seeker and said partner is seeking to match a job seeker to a job.

20. A computer based system according to claim 16, wherein said web site is individually addressable using a uniform resource locator from a remote internet terminal.

21. A computer based system according to claim 16, wherein said designated recipient markets goods or services.

28/3/101 (Item 101 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00568298
COLLECTION AND ANALYSIS OF USER PROFILE INFORMATION
COLLECTE ET ANALYSE D'INFORMATIONS DE PROFIL D'UTILISATEUR
Patent Applicant/Assignee:
ANDERSEN CONSULTING LLP,
Inventor(s):
HANDEL Sean,
DAY Brian,
YUEN Miya,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200031671 A1 20000602 (WO 0031671)
Application: WO 99US27217 19991116 (PCT/WO US9927217)
Priority Application: US 98196395 19981119
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW GH GM KE LS MW SD SL SZ TZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 20848

RELATED DOCUMENT BENEATH

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : G06F 17/60, 11/32	A1	(11) International Publication Number: WO 00/31671
		(43) International Publication Date: 2 June 2000 (02.06.00)

(21) International Application Number: PCT/US99/27217

(22) International Filing Date: 16 November 1999 (16.11.99)

(30) Priority Data:
09/196,395 19 November 1998 (19.11.98) US

(71) Applicant: ANDERSEN CONSULTING LLP [US/US]; 1661 Page Mill Road, Palo Alto, CA 94304 (US).

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(74) Agent: STEPHENS, L., Keith; Hickman Stephens & Coleman, LLP, P.O. Box 52037, Palo Alto, CA 94303-0746 (US).

(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published
With international search report.
Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: COLLECTION AND ANALYSIS OF USER PROFILE INFORMATION

(57) Abstract

A system is disclosed that facilitates a web-based user network interface is created by obtaining user profile information from a database of user profile information. Then, the system gathers behavioral information from the user profile information and statistically analyzes the behavioral information to generate graphs indicative of the user's interaction with applications which are presented on a display utilizing agent software. Agent software is also utilized to gather user profile information pertaining to application usage and agent utilization to determine characteristics of a user for use in tuning a consistent user interface to applications.

28/3/102 (Item 102 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00568291 **Image available**
A SYSTEM, METHOD AND ARTICLE OF MANUFACTURE FOR A GROUPED PROFILE NETWORK INTERFACE
SYSTEME, PROCEDE ET ARTICLE MANUFACTURE DESTINES A UNE INTERFACE DE RESEAUX DE PROFILS GROUPES
Patent Applicant/Assignee:
ANDERSEN CONSULTING LLP,
Inventor(s):
HANDEL Sean,
DAY Brian,
YUEN Miya,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200031664 A2 20000602 (WO 0031664)
Application: WO 99US27218 19991116 (PCT/WO US9927218)
Priority Application: US 98196336 19981119
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW GH GM KE LS MW SD SL SZ TZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 20938

RELATED DOC BENEATH

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : G06F 17/30

A2

(11) International Publication Number: WO 00/31664

(43) International Publication Date: 2 June 2000 (02.06.00)

(21) International Application Number: PCT/US99/27218

(22) International Filing Date: 16 November 1999 (16.11.99)

(30) Priority Data:
09/196,336 19 November 1998 (19.11.98) US

(71) Applicant: ANDERSEN CONSULTING, LLP [US/US]; 1661 Page Mill Road, Palo Alto, CA 94304 (US).

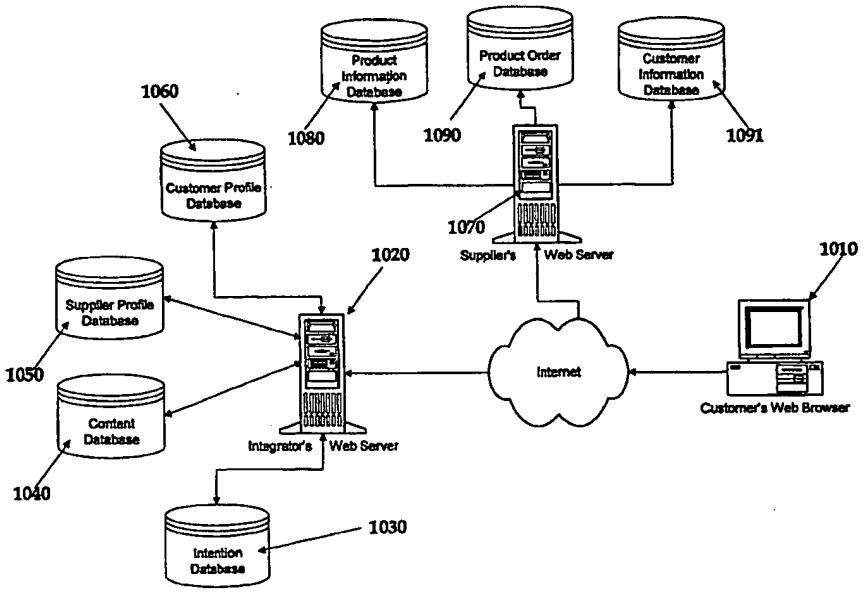
(72) Inventors: HANDEL, Sean; 2927 Pine Street, San Francisco, CA 94115 (US). DAY, Brian; 1112 Palm Drive, Burlingame, CA 94919 (US). YUEN, Miya; 748 Bounty Drive #4802, Foster City, CA 94404 (US).

(74) Agent: STEPHENS, L., Keith; Hickman Stephens & Coleman, LLP, P.O. Box 52037, Palo Alto, CA 94303 (US).

(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published
Without international search report and to be republished upon receipt of that report.

(54) Title: A SYSTEM, METHOD AND ARTICLE OF MANUFACTURE FOR A GROUPED PROFILE NETWORK INTERFACE



(57) Abstract

A system is disclosed that facilitates a web–based data model to support user information capture and storage is created by obtaining user profile information, grouping the user profile information in a logical manner, associating a unique name wih the grouped user profile information, and storing the grouped user profile information and correlated name in a database. Access to the profile information is restricted and a customized user interface is created for each application based on the current grouped user profile information.

28/3/120 (Item 120 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00554408 **Image available**
METHOD AND APPARATUS FOR CONSTRUCTING AND MAINTAINING A USER KNOWLEDGE PROFILE
PROCEDE ET APPAREIL PERMETTANT DE CONSTRUIRE ET DE METTRE A JOUR UN PROFIL **DE CONNAISSANCES D'UTILISATEURS**
Patent Applicant/Assignee:
TACIT KNOWLEDGE SYSTEMS,
GILMOUR David L,
WANG Hua-Wen,
Inventor(s):
GILMOUR David L,
WANG Hua-Wen,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200017781 A1 20000330 (WO 0017781)
Application: WO 99US19482 19990825 (PCT/WO US9919482)
Priority Application: US 98157092 19980918
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 17862

RELATED DOC. BENEATH

28/3/136 (Item 136 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00418748 **Image available**
SYSTEMS AND METHODS FOR SECURE TRANSACTION MANAGEMENT AND ELECTRONIC RIGHTS PROTECTION
SYSTEMES ET PROCEDES DE GESTION DE TRANSACTIONS SECURISEES ET DE PROTECTION DE DROITS ELECTRONIQUES
Patent Applicant/Assignee:
INTERTRUST TECHNOLOGIES CORP,
Inventor(s):
GINTER Karl L,
SHEAR Victor H,
SIBERT W Olin,
SPAHN Francis J,
VAN WIE David M,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9809209 A1 19980305
Application: WO 97US15243 19970829 (PCT/WO US9715243)
Priority Application: US 96706206 19960830
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
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PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW GH KE LS MW SD
SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB GR IE IT
LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 195626

RELATED DOC. BENEATH

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S7     770667   MATCH? OR BROKER? OR (BRING? OR BRUNG? OR BROUGHT? OR LINK?
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             E? OR WORLD()WIDE()WEB)
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S14       441   S13 AND S7:S9
S15        21   S14 AND (S6 OR S10:S11)
S16      2967   S1:S5(10N)S6:S9 AND S12
S17        60   S16 AND S10:S11
S18       243   S16 AND S6
S19         4   S14 AND S18
S20        79   S15 OR S17 OR S19
S21        51   S20 AND PY<2001
S22        43   RD (unique items)
? show files
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File 256:TecInfoSource 82-2005/Feb
(c) 2005 Info.Sources Inc
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
(c) 1998 Inst for Sci Info
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Set     Items   Description
S1      77556   SEARCH?(7N)(CHARACTERISTIC? OR CRITER? OR QUERY? OR QUERIE?
             OR REQUIREMENT? OR QUALIFICATION? OR ATTRIBUTE? OR REQUISIT?)
S2     332509   SEARCH?(7N)(PROFILE? OR TARGET? OR CONTACT? OR STENCIL? OR
            TEMPLAT? OR INFO OR INFORMAT? OR DATA)
S3     100524   (PROFIL? OR TARGET? OR CONTACT? OR STENCIL? OR TEMPLAT? OR
            CHARACTERISTIC? OR ATTRIBUT?)(7N)(PERSONALIZ? OR PERSONALIS? -
            OR CUSTOMIZ? OR CUSTOMIS? OR INDIVIDUALIZ? OR INDIVIDUALIS?)
S4       2063   (PROFIL? OR TARGET? OR CONTACT? OR STENCIL? OR TEMPLAT? OR
            CHARACTERISTIC? OR ATTRIBUT?)(7N)(CUSTOM OR TAILOR)()(MAKE? OR
             MAKING? OR MADE?)
S5    4374618   (POTENTIAL? OR PROSPECTIV? OR PROFIL?)(7N)(TARGET? OR CONT-
            ACT? OR PROFIL?)
S6    3158851   REFERRAL? OR RECOMMENDAT? OR SPEAK?(2W)(HIGHLY? OR WELL) OR
             TESTIMONIAL? OR LETTER?(2W)INTRODUCT? OR COMPLIMENT? OR PRAI-
            SE? OR HIGH()MARK?
S7    7330780   MATCH? OR BROKER? OR (BRING? OR BRUNG? OR BROUGHT? OR LINK?
             OR JOIN?)()TOGETHER?
S8    6910565   CONNECT?
S9   13635172   COUPL? OR MATE? OR MATING?
S10     91592   SPECIF?(3N)CONNECT? OR DEGREE?(2W)SEPARAT? OR CONTROL?(3N)-
            INTERACT? OR NETWORK?(2N)(CHAIN? OR CONCATENAT?)
S11   1150098   (ACCESS? OR CONTACT? OR COMMUNICAT? OR INTERPERSONAL?)(7N)-
            (AUTHORIZ? OR AUTHORIS? OR RESTRICT? OR CONFIDENTIAL? OR PRIV-
            AT? OR DISCREET? OR PERSONAL? OR P2P OR PERSON(2W)PERSON OR P-
            EER(2W)PEER OR (SHARE? OR SHARING)(2W)(OTHER? OR ANOTHER?))
S12   3569649   S1:S11(10N)(COMPUTER? OR NETWORK? OR SERVER? OR WORKSTATIO-
            N? OR DESKTOP? OR INTERNET? OR ONLINE? OR SOFTWARE? OR WEBSIT-
            E? OR WORLD()WIDE()WEB)
S13      6544   S1(10N)S2:S5 AND S12
S14      4900   S13 AND S7:S9
S15      3866   S14 AND (S7 OR S9)
S16        87   S15 AND S1:S5(15N)S10:S11
S17        81   S15 AND S1:S5(15N)S6
S18       161   S16:S17
S19       127   S18 AND PY<2001
S20        63   RD (unique items)
? show files
File   9:Business & Industry(R) Jul/1994-2005/Apr 26
         (c) 2005  The Gale Group
File  13:BAMP 2005/Apr W3
         (c) 2005  The Gale Group
File  15:ABI/Inform(R) 1971-2005/Apr 27
         (c) 2005 ProQuest Info&Learning
File  16:Gale Group PROMT(R) 1990-2005/Apr 26
         (c) 2005 The Gale Group
File  20:Dialog Global Reporter 1997-2005/Apr 27
         (c) 2005 The Dialog Corp.
File  47:Gale Group Magazine DB(TM) 1959-2005/Apr 27
         (c) 2005 The Gale group
File  75:TGG Management Contents(R) 86-2005/Apr W3
         (c) 2005 The Gale Group
File  88:Gale Group Business A.R.T.S. 1976-2005/Apr 26
         (c) 2005 The Gale Group
File  98:General Sci Abs/Full-Text 1984-2004/Dec
         (c) 2005 The HW Wilson Co.
File 141:Readers Guide 1983-2005/Dec
         (c) 2005 The HW Wilson Co
File 148:Gale Group Trade & Industry DB 1976-2005/Apr 27
         (c)2005 The Gale Group
File 160:Gale Group PROMT(R) 1972-1989
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(c) 1999 The Gale Group
File 239:Mathsci 1940-2005/Jun
(c) 2005 American Mathematical Society
File 267:Finance & Banking Newsletters 2005/Apr 26
(c) 2005 The Dialog Corp.
File 268:Banking Info Source 1981-2005/Apr W3
(c) 2005 ProQuest Info&Learning
File 275:Gale Group Computer DB(TM) 1983-2005/Apr 27
(c) 2005 The Gale Group
File 369:New Scientist 1994-2005/Mar W4
(c) 2005 Reed Business Information Ltd.
File 370:Science 1996-1999/Jul W3
(c) 1999 AAAS
File 476:Financial Times Fulltext 1982-2005/Apr 27
(c) 2005 Financial Times Ltd
File 484:Periodical Abs Plustext 1986-2005/Apr W4
(c) 2005 ProQuest
File 553:Wilson Bus. Abs. FullText 1982-2004/Dec
(c) 2005 The HW Wilson Co
File 610:Business Wire 1999-2005/Apr 27
(c) 2005 Business Wire.
File 613:PR Newswire 1999-2005/Apr 27
(c) 2005 PR Newswire Association Inc
File 621:Gale Group New Prod.Annou.(R) 1985-2005/Apr 27
(c) 2005 The Gale Group
File 624:McGraw-Hill Publications 1985-2005/Apr 27
(c) 2005 McGraw-Hill Co. Inc
File 634:San Jose Mercury Jun 1985-2005/Apr 26
(c) 2005 San Jose Mercury News
File 635:Business Dateline(R) 1985-2005/Apr 27
(c) 2005 ProQuest Info&Learning
File 636:Gale Group Newsletter DB(TM) 1987-2005/Apr 27
(c) 2005 The Gale Group
File 647:CMP Computer Fulltext 1988-2005/Apr W2
(c) 2005 CMP Media, LLC
File 674:Computer News Fulltext 1989-2005/Apr W3
(c) 2005 IDG Communications
File 696:DIALOG Telecom. Newsletters 1995-2005/Apr 26
(c) 2005 The Dialog Corp.
File 810:Business Wire 1986-1999/Feb 28
(c) 1999 Business Wire
File 813:PR Newswire 1987-1999/Apr 30
(c) 1999 PR Newswire Association Inc
?

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A Multi-Agent Referral System for Matchmaking

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ABSTRACT

Many important and useful applications for software agents require multiple agents on a network that communicate with each other. Such agents must find each other and perform a useful joint computation without having to know about every other such agent on the network. This paper describes a *matchmaker* system, designed to find people with similar interests and introduce them to each other. The matchmaker is designed to introduce *everyone*, unlike conventional Internet media which only allow those who take the time to *speak* in public to be known.

The paper details how the agents that make it up the matchmaking system can function in a decentralized fashion, yet can group themselves into clusters which reflect their users' interests; these clusters are then used to make introductions or allow users to send messages to others who share their interests. The algorithm uses *referrals* from one agent to another in the same fashion that word-of-mouth is used when people are looking for an expert. A prototype of the system has been implemented, and results of its use are presented.

KEYWORDS: agents, collaborative filtering, CSCW, joint computation, ecology of computation, user modeling, intelligent systems, information retrieval, distributed AI, Internet.

INTRODUCTION

Software agents are computer programs which attempt to perform some set of tasks autonomously for their users, in a trustworthy, personalized fashion. They can be either manually programmed by the user, or use techniques from machine learning to discover how the user does some task and gradually automate it. Examples include mail filtering programs, which learn or are told whose mail is valued and whose is not [9][10]; meeting scheduling programs, which learn or are told when and with whom to schedule meetings and how flexible to be in negotiating (with other agents) for times depending on who else is in the meeting [7]; and so forth. Many software agents are even designed to be primarily entertaining, perhaps with ancillary practical or informative goals [3][11].

Other agents take more initiative; they actively inform the user when they find items that match the user's known interests. Often, such agents may not understand the domain of interest directly, but are instead facilitators that can find *other people* who understand the domain better who can advise. *Automated collaborative filtering*, in which users with similar tastes are matched up, is used in systems such as Webhound[9] or HOMR/Ringo [14].

While the two agents above match up users' tastes to make recommendations, their focus is not explicitly to matchmaking users and introducing them to each other. The research described in this paper is focussed on introducing users who are interested in similar topics. There are a number of reasons why one might want to do this:

- People are often working on similar projects without realizing it—be it two people down the hall from each other reinventing the same wheel, or two doctors both doing research on similar cases but having no idea that both of them are studying the same literature.
- It is often the case that people need to find an expert in some field, but finding such an expert can be difficult and time-consuming. Those who are not well "plugged-in" via word of mouth can find this even more difficult.
- There is potential for a great deal of social collaboration on the Internet, but it is often underutilized. "Lurkers" who read but do not post to mailing lists or newsgroups, for example, are an undiscovered resource to the community, invisible because they do not contribute to public discussion.

Current communications systems on the Internet are not well-designed for this sort of matchmaking. In almost all media on the Internet, only people who take the time to write a piece of prose and transmit it somewhere, whether by mail, news, or making a Web page, are ever seen by anyone else. Two people who are both working on the same problem, or who share an interest, may never know if they themselves are not actually writing about it. The matchmaking system described here is designed to aid these "lurkers" who are not part of the public discussion nonetheless find each other and establish a community.

Why having multi-agent systems helps

Many currently-implemented agents use a *centralized* architecture, in which one agent serves either one or many users. A centralized architecture has its advantages: for example, if there is no effective way for peers to find each other, a centralized solution may be the only workable solution. Unfortunately, there are problems with a centralized architecture:

- Scaling such an architecture to large numbers of users is difficult; in systems which must correlate user interests, for example [14], straightforward approaches to this problem generally require a quadratic-order matching step somewhere.
- If the system requires either high availability (due to constant demand for its services) or high trustability (because it handles potentially sensitive information, such as personal data), a centralized server provides a single point where either accidental failure or deliberate compromise can have catastrophic consequences.

For these reasons and others, many foreseeable future applications for software agents involve large numbers of agents interacting with each other. Users may have a number of agents operating on their behalf, and agents of any particular user may have to communicate with other agents elsewhere on the network in order to share information.

Why multi-agent systems are hard to build

While decentralized, multi-agent systems have several important advantages, one of the largest problems with them is *how agents are supposed to find each other.* Each agent should not have to know about (and, indeed, probably cannot know about) every other agent, user, or resource on the network. Instead, some mechanism by which agents may locate only the useful agents on the network must be arranged.

There are several relatively straightforward approaches that have been used in other networked systems. For example, hierarchical organization of the entities, as is done with resource records in the Internet domain name system [12] or with newsgroup topics in the Usenet [4], can help to reduce the inherently quadratic problem into a logarithmic one. However, such approaches depend on some inherent organizational principle that is established in advance, which is neither always optimal nor always convenient; for example, consider the number of crossposted Usenet articles, a clear indication that single-inheritance hierarchies are not necessarily a good match to the underlying topic space.

This research focuses on the problems of a *matchmaking* service, one designed to find groups of people with similar interests and bring them together to form coalitions and interest groups. We are *not* explicitly interested here in romantic matchmaking between users, for many reasons—the most obvious being that shared interests do *not* necessarily mean that two people are romantically compatible. The intended scale of the matchmaking is that of the entire Internet, an environment in which there are potentially millions of users and millions of agents corresponding to them. The domain and the large number of agents presents difficult coordination problems, such as:

- there is no obvious a priori hierarchy by which to organize the agents (why would any one person's interests be at the top of any hierarchy? how would we know whom to pick, anyway?);
- asking other agents *at random* resembles diffusion in a gas and is extremely slow—it means each agent could be required to ask every agent on the network, guaranteeing a solution that scales poorly; and
- a centralized approach runs into the problems mentioned above of quadratic scaling, and also is subject to single-point-of-failure problems if the central system either fails or is compromised—an important point for an application handling potentially sensitive data.

Finding the right cluster of peer agents: the core idea

To address these problems, this research considers an overall organization which borrows ideas from *computational ecology* [5], in which agents have only local knowledge, but self-organize into larger units. The *core ideas* in the approach taken here are to

- compare the agents' information in a *peer-to-peer, decentralized* fashion,
- use *referrals* from one agent to another and an algorithm resembling *hill-climbing* to find other, more appropriate agents when searching for relevant peers, in order to
- build *clusters* or *clumps* of like-minded agents, and to
- *use these clusters* of similar or like-minded agents (whose users therefore share similar interests) to *introduce* users to each other and enable cluster-wide *messaging* between users whose interests match.
- use a *persistent* agent that runs most of the time, for long periods; the user does not start up the agent, get an immediate result, and shut it down, but instead runs it in the background for hours or weeks, while it uses "word of mouth" to find and join appropriate groups of agents whose users share the same interests.

How the resulting clusters can be used

Once agents have formed clusters—an ongoing and continuous process for real agents on the Internet, due to the scale and constantly-changing environment involved—how can we use these clusters? There are many applications; this is a short summary:

- *Messaging into the group.* A user whose agent is in some particular group can send a message into the group—either those other agents known directly by the user's agent to be in the same cluster, or transitively through all other agents in the cluster by following cluster cache information in a flooding algorithm. Thus, given some particular granule on the user's local agent, the user could ask his agent to send a message to all other agents in the clump of which this granule is a member.
- *Introductions.* The chain of referrals themselves can be useful information, and can be exposed to the user under certain circumstances. Not only can the user send message to particular individuals (whether pseudonymously or not), but the agent itself can facilitate a "flirtatious" sort of introduction in which information can be symmetrically and gradually revealed, via cryptographic protocols. Users could ask for an explicit introduction to particular members of the cluster, or could instruct their agent to accept or solicit introductions when it looked like there was a particularly good match available.

- *Finding an expert.* By using a combination of messaging into the group and introductions, the clusters that a user's agent finds itself in can potentially be used to find experts on the subject, since presumably such experts (if they, too, are running the agent) will have their interests reflected in the clustering. Here, a user could prepare a small piece of prose, or find some existing message, which talks about the subject for which the user wants an expert; the clustering algorithm could then generate a granule for this grain and attempt to find a suitable cluster. Once found, it could start the introduction process to acquaint the questioner and the expert.

What is described in this paper

The following sections describe the algorithm used in a prototype of the clustering system, the testing used to evaluate its performance, and how this work is integrated into the larger goal of automatically building interest groups and coalitions on the Internet.

Note that the algorithms described below are but a small piece of the overall task. In particular, since the system handles sensitive information such as people's interests, fielding the system on the Internet requires cryptographic privacy safeguards briefly described elsewhere [1][2] and which are the subject of current research. Furthermore, as an initial prototype for testing the efficacy of clustering, no user interface is described. The entire system, including such cryptographic safeguards, a user interface, and other necessary elements, is called *Yenta*; to avoid confusion, the prototype piece described here is called *Yenta-Lite* or *YL* for short.

THE APPROACH

The overall goal is to form clusters of agents whose users share similar interests. In order to do this, we must answer the following questions:

- What does it mean to have an interest, and how do agents know about these interests?
- How do we determine similarity of interests?
- How does a particular agent know which other agents to contact?
- How can we form clusters of similar agents?

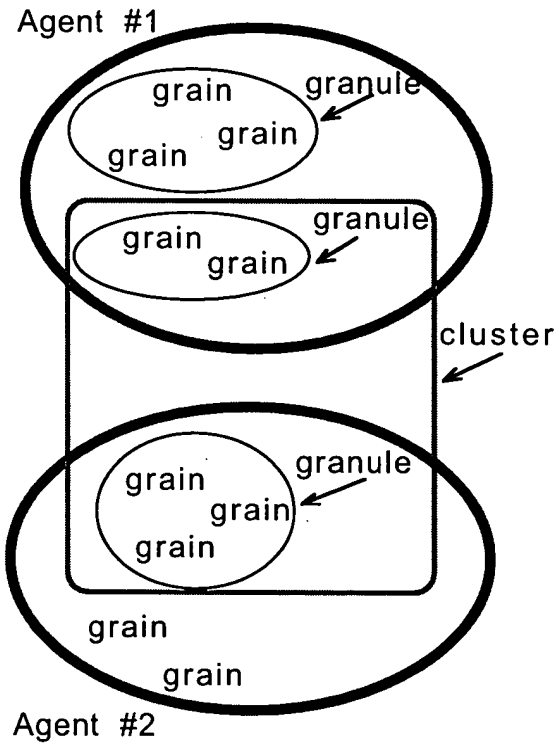
What does it mean for a user to have an interest, and how do we capture that computationally?

For the purposes of matching people by their interests, we assume that these interests are *capturable* in some computer-based form. At the moment, Yenta only deals with text, such as electronic mail messages, the contents of various newsgroup articles, the contents of the user's files in a filesystem, and so forth. The architecture of Yenta supports somewhat different sources of information as well (such as World Wide Web hotlists and homepages)—the crucial requirements for any interest are *a)* they are represented in some electronic form, hence captured by the computer, and *b)* there is some way of comparing two potential interests and assigning a *degree of similarity* between them.

As currently implemented, Yenta-Lite can examine the contents of email messages, newsgroup articles, and user files that the user has received, read, or written. The tests described in this paper used *newsgroup articles* and *email messages* only, as discussed in the section on evaluating Yenta-Lite's performance. Each individual message, article, or file being compared is considered a *document*; however, since Yenta might eventually be comparing nontextual documents, we use the term *grain* to refer to any individual chunk of bits associated with a user.

A user is deemed to *have* an interest if several grains are *similar* to each other. Such a collection of similar grains is called a *granule*. A user may own many granules, each corresponding to some separate interest; for example, a user who regularly reads newsgroup articles on dogs and cars would presumably have two granules reflecting these disparate interests.

Two users, A and B, are deemed to *share* an interest if A has at least one granule that is similar to at least one of B's granule. Two or more users who share an interest are *conceptually* in a *cluster* at the instant that they both possess similar granules; they are *actually* in clump at the instant their two agents discover this similarity. A diagram illustrating this is below.



Suppose we have three users, A, B, and C. Suppose that A and B are in a clump, and B and C are in a clump. Are A, B, and C all in a clump together? Not necessarily. If A is interested in dogs and cars, his associated granules are A_{dogs} and A_{cars}. If the other granules are B_{dogs}, B_{zebras}, C_{dogs}, and $C_{guitars}$, then A, B, and C are all in a clump, because they all share an interest in dogs. However, if C_{dogs} was instead C_{zebras}, then we have two clumps, one reflecting A and B's interests in

dogs, and one reflecting B and C's interest in zebras. B in this case is in two clumps, while A and C are each in one clump.

How do we determine similarity of interests?

The fundamental assumption behind Yenta's assessment user similar of user interests is this: If two users both have several documents which are similar to each other, then the users are assumed to share an interest themselves.

In order to function at all, Yenta demands that any two grains can be compared to yield some measure of similarity. It is also required that this measure be (at least) partially-ordered; a floating-point number, for example, which reflects how similar two grains are is an acceptable representation. The Yenta architecture allows more sophisticated similarities than scalar numbers, but Yenta-Lite, and the results reported here, use only scalars. At the moment, it is also assumed that this comparison operator is reflexive, e.g., that if A's similarity to B is 0.74, then B's similarity to A is likewise 0.74. Future work may explore the stability of the clustering algorithm in the face of nonreflexive comparison operators.

Since Yenta-Lite's grains are all exclusively textual, we use the SMART [15] document system to compare them. SMART is designed primarily to index and retrieve documents from large collections. It has many possible modes of operation; in our use, SMART first stems all words in any given document (e.g., removes prefixes and suffixes and otherwise canonicalizes the text), computes an inverse-frequency metric for each word in the document (so that rare words with greater power to discriminate two documents from each other have greater weight than common words which appear in most documents), and computes a vector which describes the document based on these.

When used to index into a large collection of documents, SMART normally takes a query, computes the vector associated with the query, and dots the resulting query vector with the vectors corresponding to each document. Dot products which have high scores are reported. In Yenta's case, the query is itself a document; therefore, Yenta essentially takes pairs of documents, dots them together, and assumes that high scores indicate similarity.

This is not the only way to do this, of course. For example, consider WordNet [13], which is a semantic net that allows comparing words based on how many links away one word is from another, and in what direction (e.g., synonym, antonym, superset, etc). Future implementations of Yenta may combine SMART and WordNet if the advantages (e.g., possibly more resilience in the face of synonyms that rarely co-occur in a single document) outweigh the disadvantages (e.g., greater semantic "fuzz" in the comparison due to the greater number of words investigated in any given document).

Forming clusters via referrals

We now come to the heart of the clustering algorithm. Given that we have a multiplicity of agents with no central node and no hierarchy, how can we reasonably form clusters which reflect the interests of the users?

The major steps (described in more detail) are:

- Intra-agent initialization, known as *preclustering*: Combine grains into granules within a single agent.
- Inter-agent initialization, known as *bootstrapping*: Find at least one other agent with which to communicate.
- Walk referrals and cluster: Form clusters of like-minded agents.

Preclustering

When an agent first starts running, it must determine what interests its user possesses. It does this by collecting some subset of the user's email, newsgroup articles, and files; each such item is known as a *grain*. Each separate grain is considered for membership in a growing collection of granules.

First, each grain is converted into a SMART vector. Next, a complete cross-product table is created in which each grain's SMART vector is dotted with each other grain's SMART vector; each resulting dot-product p is an entry in the table. This is an $O(n^2)$ operation, given that there are n grains in the user's collection. The result is a table in upper-triangular form, with the main diagonal suppressed (since the main diagonal corresponds to comparing each grain to itself). We then compute the mean, $\bar{p}$, and the standard deviation σ of all of the *nonzero* entries in this table of p values. Typically, 60% of the entries in the table are zero.

Next, a grain is picked at random to start the process of preclustering into granules. It is assigned to the first granule, G_0. To grow G_0, we pick a grain g not already in G_0 and compare it—by dotting SMART vectors together—to each grain already in G_0; we compute the mean $\bar{g}$ of these dot products. We repeat this process for all the other grains not in G_0 and remember $\bar{g}_{best}$, which is the best mean. Then, we see if

$$\bar{g}_{best} > (W\sigma) + \bar{g}$$

is true, where W is a weight described in the next paragraph. If the relation is true, then the grain corresponding to $\bar{g}_{best}$ is added to G_0. When we have made a complete pass through all documents not in G_0, we take a document at random in the leftovers and start trying to make granule G_1.

The weight W is essentially a user-tunable variable. $W = 1$ implies that roughly 17% of the grains will pass this test when compared to a randomly selected granule, since a weight of 1 corresponds to everything on the high side of one standard deviation from the mean; that is:

$$\frac{100\% - 67\%}{2} = 17\%.$$

This process of producing granules is relatively time-consuming (it has several $O(n^2)$ steps in it), but must be done only once for any given collection of the user's grains, and, as shown later, it appears to produce acceptable results.

In true Yenta, it is assumed that the user will constantly be adding grains to his collection as new messages come in or new files are created; however, incrementalizing the algorithm to cope with each added grain is relatively easy: we compare each new grain with existing granules for membership, adding it if it matches well. Otherwise, it is put aside with the rest of the unmatched grains, and this pile of unmatched grains is occasionally scanned to see if a large

enough number of grains are similar that they can form a new granule.

Boostrapping

The next phase requires finding at least one other agent with which to communicate; finding more after that is easier—due to other agents' rumor caches—in that it is less likely that we will require either ad-hoc heuristics or user intervention. In Yenta-Lite, we finess this problem and assume that we can always find another agent. Several heuristics are availabie for true Yenta, including broadcasts and directed multicasts on local network segments to find other agents in the same organization, asking a central registry which contains a *partial* list of other known agents, and asking the user for suggestions. All of these heuristics have various advantages and disadvantages, but we shall not pursue them here.

Data structures used in finding referrals and clusters

We now come to the step in which the various granules in agents form clusters with other granules. For concreteness, assume that we have two agents, named A and B, which each have a few granules in them, e.g., G_{A0}, G_{A1}, etc. Each agent also contains several other data structures:

- A *cluster cache, CC,* which contains the names of all other agents currently known by some particular agent as being in the same cluster. Thus, if agent A knows that its granule 1 is similar to granule 3 of agent B, then CC_A contains a notation linking G_{A1} to G_{B3}. There are two important limits to the storage consumed by such caches: g_l ("local granules"), the number of separate granules that any given agent is willing to remember about itself; and g_r ("remote granules"), the number of granules this agent is willing to remember about other agents. The total size of *CC* is hence g_l times g_r. In Yenta-Lite, these are essentially unbounded; in an implementation that wishes to save space, limiting g_r before limiting g_l would seem to make the most sense, as this limits the total number of other agents that will be remembered by the local agent, while not limiting the total number of disparate interests belonging to the user that may be remembered by the local agent.
- A *rumor cache, RC,* which contains the names and other information (described below) from the last r agents that this agent has communicated with. In Yenta-Lite, r is arbitrarily set to 5, and it should definitely be bounded in true Yenta as well, since otherwise any given agent will remember *all* of the agents it has ever encountered on the net and its storage consumption will grow without bound. Reasonable values for bounds in real-life operation with large numbers of agents are currently unknown, but are suspected to be on the order of 20 to 100.
- A *pending-contact* list, *PC,* which is a priority-ordered list of other agents that have been discovered but which the local agent has not yet contacted.

The rumor cache contains more than just the names of other agents encountered on the network. It also contains some subset, perhaps complete, of the text of each granule corresponding to those agents.

The stored granules themselves are essential for the referral process. Having the complete text of each granule, or even most of it, could represent a large amount of storage (e.g., 100K or more per granule, depending on exactly what is in any given granule). We do not just store the SMART vectors because:

- The Yenta architecture does not *require* that the comparison operator be able to handle a "reduced information" representation of the two grains to be compared. SMART happens to compare two documents by reducing them to a pair of vectors before dotting them together, but other comparison operators might not produce such a compact representation as part of their operation.
- The Yenta architecture does not enforce a requirement that each agent be running identical software, and indeed expects that any given pair of agents may be running slightly different versions, including different comparison functions. There is no telling a priori whether some reduced-information representation of a particular grain will be correct for two different comparison operators.

  Note that one might allow the user to choose a reduced-information version of each granule, accepting the reduced performance that would result when other agents give up on interoperating with the local agent when they discover that their comparison operators differ.
- Having the complete text of each granule represents more than a space penalty—it also represents a serious privacy problem if some particular agent were to be maliciously modified to disgorge both the contents and identity of some remote agent. In true Yenta (but not Yenta-Lite), this is ameliorated using cryptographic protocols to hide information, even in the cache, and also to hide identities of the remote agents.

Getting referrals and doing clustering

Now that we have all this mechanism in place, performing referrals and clustering is relatively uncomplicated.

The process starts when some agent (call it A) has finished preclustering and has found at least one other agent (call it B) via bootstrapping. Agent A then performs a comparison of its local granules with those of agent B, using a process reminiscent of the preclustering phase but simplified. A builds an upper-triangular matrix describing the similarities between each of its local granules and those locally held by B. Then, rather than taking averages and standard deviations, it simply finds the highest score (e.g., closest similarity) between any given granule (say, G_{A1}) and B's granules. If there is no such value above a particular threshold, then the local granule under consideration does not match any of B's granules, although some other local granule, e.g., G_{A2}, might match.

The comparison process is simpler in the clustering (inter-agent) phase than in the preclustering (intra-agent) phase in part because two agents talking to each other cannot assume that they have complete information about either each other or the space of all possible other granules on the network. Thus, we do not bother trying to calculate averages and standard deviations; as observed in the prototype, a simpler,

threshold-based match appears to work well enough.

When we are done comparing granules from A with granules from B, agent A may have found some acceptably close matches. Such matches are entered, one pair of granules at a time, in A's cluster cache. B is likewise doing a comparison of its granules with A and is entering items in its own cluster cache.

Whether or not any matches were found that were good enough to justify entering them in a cluster cache, the next step is to acquire *referrals* to agents that might be better matches. In the example here, agent A asks agent B for the entire contents of its rumor cache, and runs the same sort of comparison on those contents that it did on agent B's own local granules. Good matches are added to A's cluster cache, the rest of the data is added to A's rumor cache, and A's namelist is updated by adding to it those other agents which showed good matches to A, that is, those agents which had granules that went into A's cluster cache. These agents will be contacted next, after A finishes with B and any other entries in its namelist. The various caches belonging to B that A has been consulting were gathered by B in a similar way; every agent participating in this protocol is thus building up a collection of data for its own use and for the use of other agents.

This procedure acts somewhat like human word of mouth. If Sally asks Joe, "What should I look for in a new stereo?" Joe may respond, "I have no idea, but Alyson was talking to me recently about stereos and may know better." In effect, this has put Alyson into Sally's rumor cache (and, if Joe could quote something Alyson said that Sally found appropriate, perhaps into Sally's cluster cache as well). Sally now repeats the process with Alyson, essentially hill-climbing her way towards someone with the expertise to answer her question.

EXPERIMENTAL EVALUATION OF THE ALGORITHM

To test the algorithm presented above, the Yenta-Lite prototype was implemented. This prototype contains simulates 20 agents by running them all on a single machine.

A randomly-chosen mix of newsgroups and mailing list archives, comprising 13 megabytes total from 7 sources, were used as the grain data for the agents. In particular, the sources were comp.ai.philosophy, rec.pyrotechnics, and sci.math (Usenet newsgroups), and alive-archive, macmoose-archive, physics-archive, and subgenius-archive (two mailing lists about programming projects, an announcement list for events of interest to physicists, and an aggressively eclectic mailing list for members of the Church of the SubGenius).

Each of the 7 sources was subdivided into smaller files, each no more than 150-200K, yielding 64 smaller files total. Thus, comp.ai.philosophy was divided into 20 small files, alive-archive into 3, and so forth. These smaller files were then randomly distributed amongst the 20 agents, such that each agent received either 3 or 4 of them.

Preclustering was run for each of the 20 agents, and the resulting clusters were hand-analyzed to get an idea of what the results were. While preclustering, a grain was deemed interesting enough to create a granule if at least 5% of the other grains available in the given agent also participated in the granule. Thus, grains which formed granules consisting only of themselves or a tiny number of other grains were inhibited.

By way of illustration, consider the two example agents below, which were selected randomly from the 20 total. Agent 1 got two small files from comp.ai.philosophy (the first and second of them, ai.1 and ai.2) and one from sci.math; SMART converted the resulting grains into 180 vectors. Preclustering yielded 12937 nonzero matrix entries, which were 39% of the total entries, and formed 5 different granules (named 1.1 through 1.5). Human analysis of the resulting granules indicated that there was some overlap between the subject areas of the two newsgroups (two granules contained messages from both newsgroups, for example). Agent 6, on the other hand, completely partitioned the SubGenius mailing list from the physics mailing list, and further segmented each of those into two different subject areas.

Agent 1: ai.1, ai.2, sm.1,
180 vectors, $\bar{p}$=.072, σ=.085, NZ=12937 (39%)
1.1 ai/sm. Limits of computing power/theoret. comput.
1.2 ai. Long discourses on fuzzy logic/psychology.
1.3 ai/sm. Philosophy of N,Z, Q, and R construction.
1.4 ai. Books about small towns.
1.5 sm. Division by zero tricks.

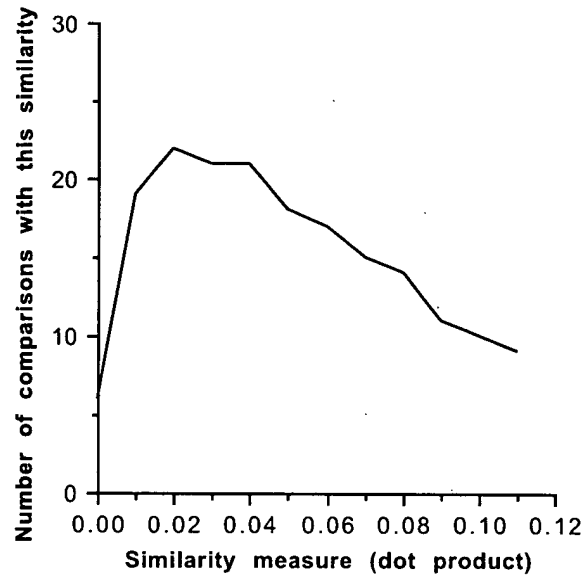
Agent 6: sg.1, rp.1, ph.2
68 vectors, $\bar{p}$=.112, σ=.128, NZ=2131 (46%)
6.1 sg. SubGenius random flaming.
6.2 sg. More SubGenius random stuff; new topic.
6.3 ph. Drivel from the American Physical Society.
6.4 ph. Boston area physics calendar; bad physics poetry.

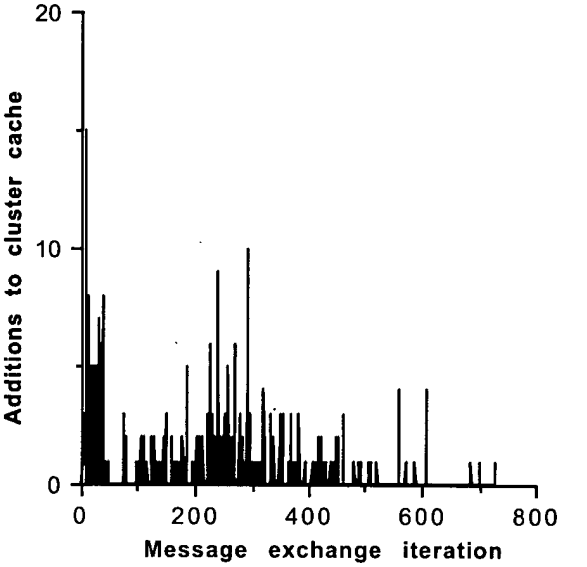
The distribution of similarity scores was somewhat surprising; instead of an expected Gaussian, the curve looked more like a blackbody curve. For example, a randomly-selected result from comparing one particular grain to a set of others, while trying to decide whether to place it into a granule, yielded a curve with a mean $\bar{p}$=.097, σ=.096, and the shape below.

Once preclustering was completed, the agents were run in random order and allowed to exchange messages. The simulation was run "to convergence," meaning that agents were allowed to continue exchanging messages until no additions were made to any agent's cluster cache for hundreds of exchanges—and hence all clusters that were *going* to form *did* form. This is *not* the situation that would obtain with true Yenta on the Internet, both because the sheer number of agents would require a very large number of message exchanges, and because the grains and granules making up each individual agent would be under constant change as their users received or sent additional messages—hence the system could never converge.

A plot of the number of additions made to the Yenta-Lite running at any particular instant vs the message exchange number in the entire simulation appears below.

Convergence was achieved before 800 messages were exchanged between the agents. There was an initial burst in which several agents added a large number of granules to





their cluster caches, followed by a relative lull, followed by a gradual rise and fall in cluster-cache additions. It is not entirely clear what accounts for the lull around the 100th message exchange; it is possible that all the "easy" clustering happened early and each agent then had to build up enough of a rumor cache and do sufficient hill-climbing using it for progress to continue.

Since this is a static simulation, it is possible to ask how the number of messages exchanged during the clustering phase compares to a brute-force solution, in which each agent's granules are methodically compared to every other granule in every other agent. Since the 64 original files turned into 68 total granules, such a crossbar would require 68^2=4624 comparisons if done naively, and 2248 comparisons if one realizes that the upper triangular part of the crossbar matrix, minus the main diagonal, is all that need be computed given a reflexive comparison function. On average, each message exchange by each Yenta-Lite compared 3.4 granules (68/20) at each end of the exchange, so the approximately 750 message exchanges performed 2550 comparisons. This is not much more work than the brute-force solution would have taken, yet it possesses desirable properties that the brute-force crossbar would not:

- The clusters are grown incrementally for each agent, so at any given time, each agent sees at least some of many clusters.
- No agent need retain knowledge of all other granules in the system at any time.
- If a agent were to disappear from the system, the only lasting effect would be for other agents to "forget" it; the rest of the clusters would still form.

Manual inspection of the clusters that resulted from this run show that the brute-force crossbar solution and the referral solution are essentially identical.

RELATED WORK

There are many efforts in distributed AI and multi-agent systems which could be considered relevant; here we consider only other matchmaking systems and related approaches.

A common technique in systems that support computation amongst a group of users is to centralize a server and have its users act like clients. Systems that match user interests to each other, and have such a centralized structure, include Webhound [14] and HOMR/Ringo[9].

Kuokka and Harada [8] describe a system that matches advertisements and requests from users and hence serves as a brokering service. Their system certainly is a matchmaker, but it assumes a centralized matchmaker and a highly-structured representation of user interests.

Others have taken a more distributed approach. For example, Kautz, Milewski, and Selman [6] report work on a prototype system for expertise location in a large company. Their prototype assumes that users can identify who else might be a suitable contact, and use agents to automate the referral-chaining process; they include simulated results showing how the length and accuracy of the resulting referral chains are affected by the number of simulated users and the accuracy and helpfulness of their recommendations. Yenta-Lite differs from this approach in using ubiquitous user data to infer interests, rather than explicitly asking about expertise.

CONCLUSIONS AND FUTURE WORK

Yenta-Lite demonstrates that referral-based matchmaking can provide acceptable results without requiring any one agent to know about all other agents, and without requiring unreasonable messaging traffic or local computation.

Work is currently proceeding on several aspects of the final Yenta design:

- Implementing the requisite privacy safeguards and user interface to permit a networked implementation with real user data.

- Evaluating the suitability and stability of the clustering algorithms in the face of hundreds or thousands of instantiations of the agent in a real environment.
- Experimenting with different comparison metrics to enhance Yenta's ability to accurately determine a match in user interests.

ACKNOWLEDGMENTS

I would like to thank undergraduates Jon Litt for figuring out the intricacies of a large system like SMART and for his sysadmin expertise, and Bayard Wenzel for implementing the initial prototype of these ideas. I would also like to thank my advisor, Dr. Pattie Maes, for her advice and her support of this research. This research has been supported in part by British Telecom.

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         (c) 2005 ProQuest Info&Learning
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File  94:JICST-EPlus 1985-2005/Mar W2
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File  98:General Sci Abs/Full-Text 1984-2004/Dec
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File 610:Business Wire 1999-2005/Apr 26
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File 613:PR Newswire 1999-2005/Apr 26
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File 621:Gale Group New Prod.Annou.(R) 1985-2005/Apr 27
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File 624:McGraw-Hill Publications 1985-2005/Apr 26
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File 625:American Banker Publications 1981-2005/Apr 27

File 634:San Jose Mercury Jun 1985-2005/Apr 25

File 635:Business Dateline(R) 1985-2005/Apr 26

File 636:Gale Group Newsletter DB(TM) 1987-2005/Apr 27

File 647:CMP Computer Fulltext 1988-2005/Apr W2

File 674:Computer News Fulltext 1989-2005/Apr W3

File 696:DIALOG Telecom. Newsletters 1995-2005/Apr 26

File 810:Business Wire 1986-1999/Feb 28

File 813:PR Newswire 1987-1999/Apr 30

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S6	198	S5 OR S3
S7	74	S6 AND PY<2002
S8	53	RD (unique items)
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NO CITATIONS OF APPLICANT'S WEBSITE PRIOR TO 2002

US006115709A

United States Patent [19]

Gilmour et al.

[11] Patent Number: 6,115,709

[45] Date of Patent: Sep. 5, 2000

[54] **METHOD AND SYSTEM FOR CONSTRUCTING A KNOWLEDGE PROFILE OF A USER HAVING UNRESTRICTED AND RESTRICTED ACCESS PORTIONS ACCORDING TO RESPECTIVE LEVELS OF CONFIDENCE OF CONTENT OF THE PORTIONS**

[75] Inventors: **David L. Gilmour**, Los Altos Hills; **Hua-Wen Wang**, Milpitas, both of Calif.

[73] Assignee: **Tacit Knowledge Systems, Inc.**, Palo Alto, Calif.

[21] Appl. No.: **09/157,092**

[22] Filed: **Sep. 18, 1998**

[51] **Int. Cl.**[7] **G06F 17/30**

[52] **U.S. Cl.** **707/9**; 707/5; 707/6; 707/10; 705/7; 713/200

[58] **Field of Search** 707/9, 10, 1–2, 707/104; 709/217–219; 705/14, 26, 35–37; 713/200–202

[56] **References Cited**

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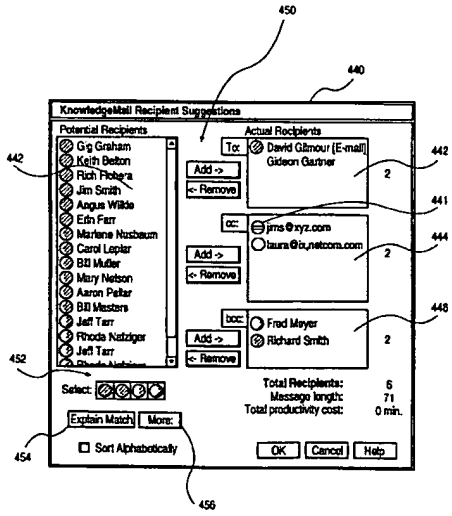
Primary Examiner—Hosain T. Alam

Attorney, Agent, or Firm—Blakely, Sokoloff, Taylor & Zafman, LLP

[57] **ABSTRACT**

A method of constructing a user knowledge profile, having distinct public and private portions with different access restrictions, requires assigning a confidence level to content within an electronic document. The electronic document is associated with a user, such as for example the author of the document. The content may be potentially indicative of a knowledge base of the user. The content is then stored in either the public or private portion of the user knowledge profile dependent upon whether the confidence level exceeds, or falls below, a predetermined threshold level. The public portion of the user knowledge profile is freely accessible by third parties, whereas the private portion has restricted access.

67 Claims, 32 Drawing Sheets



28/3/122 (Item 122 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00554354 **Image available**
METHOD AND APPARATUS FOR QUERYING A USER KNOWLEDGE PROFILE
PROCEDE ET APPAREIL D'ETABLISSEMENT D'UN PROFIL DE CONNAISSANCE
Patent Applicant/Assignee:
TACIT KNOWLEDGE SYSTEMS,
GILMOUR David L,
Inventor(s):
GILMOUR David L,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200017727 A2 20000330 (WO 0017727)
Application: WO 99US21112 19990913 (PCT/WO US9921112)
Priority Application: US 98157093 19980918; US 99270974 19990317
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 17952

RELATED DOCS. BELGIAN

US006205472B1

(12) **United States Patent**
Gilmour

(10) **Patent No.: US 6,205,472 B1**
(45) **Date of Patent: Mar. 20, 2001**

(54) **METHOD AND APPARATUS FOR QUERYING A USER KNOWLEDGE PROFILE**

(75) Inventor: **David L. Gilmour**, Los Altos Hills, CA (US)

(73) Assignee: **Tacit Knowledge System, Inc.**, Los Altos, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/270,974**

(22) Filed: **Mar. 17, 1999**

Related U.S. Application Data

(63) Continuation-in-part of application No. 09/157,093, filed on Sep. 18, 1998.

(51) **Int. Cl.**[7] **G06F 15/16**
(52) **U.S. Cl.** **709/206**; 709/245; 707/6
(58) **Field of Search** 709/200, 201, 709/202, 203, 206, 217, 219, 227, 229, 238, 245; 707/2, 6, 10, 100, 101, 102, 104, 500, 501, 513, 9; 705/14, 26, 27; 706/10, 50, 59

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5,247,575	9/1993	Sprague et al.	380/9
5,247,661	9/1993	Hager et al.	395/600
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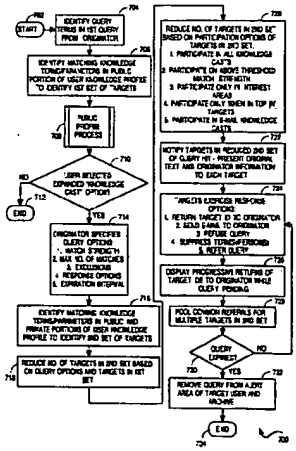
Primary Examiner—Mehmet B. Geckil
Assistant Examiner—Marc D. Thompson
(74) *Attorney, Agent, or Firm*—Blakely, Sokoloff, Taylor & Zafman

(57) **ABSTRACT**

A method of querying a user profile commences with a first access to a public portion of a knowledge profile for each of a plurality of potential targets of the electronic document, the public portion of each knowledge profile including public knowledge terms indicative of a knowledge base of a potential target of the electronic document. The first access is responsive to a first query received from an originator. A first matching operation is performed between a document term within the electronic document and public knowledge terms within the public portion of each knowledge profile to identify a first set of targets for which a match exists between the document term and at least one public knowledge term. The first set of targets is published to the originator. Responsive to a second query from the originator, the private portion of a knowledge profile for each of the plurality of potential targets of the electronic document is accessed, the private portion of each knowledge profile including private knowledge terms indicative of a knowledge base of a potential target of the electronic document. A second matching operation between the document term within the electronic document and the private knowledge terms within the private portion of each knowledge profile is performed to identify a second set of targets for which a match exists between the document term and at least one private knowledge term. Each target of the second set of targets is then prompted for authorization to be published to the originator.

26 Claims, 33 Drawing Sheets



4. Only when the match has a matching metric within a predetermined top number of matches; or
5. E-mail "knowledge sweep" queries (i.e., an e-mail is sent to the target when the target is not already recorded as a potential target and a match occurs).

At step **722**, each of the targets within the reduced second set of targets is notified of the "knowledge sweep" expanded query. For example, a target may receive an "alert" and optionally an e-mail notification. In an alternative embodiment, a client pop-up notification may be implemented in the event that the target is operating a client application to the knowledge access server **26**. The e-mail notification includes (1) a URL that may link to an "alert" page generated by the Web **720** and (2) an expiration interval (e.g., the expiration interval specified at step **714** by the originator) for which a response from the target should be received. The target may also be presented with the original text of the query (e.g., search terms or selected terms from an electronic document such as an e-mail) and the name (and further details, such as profile details) of the originator so that the originator does not remain anonymous.

At step **724**, the targets may exercise any one of a number of response options. For example, the target may return his or her identity to the originator, send an e-mail to the originator, refuse the query, suppress the query terms or the originator, or refer the query to a further target (e.g., a person or an e-mail address). The refusal of the query comprises a "do nothing" response, and the knowledge site management server **27** does not return a negative match. In this way, the originator is not advised of the identity of a target located by a "knowledge sweep" expanded query if the relevant target refuses the query. In the case where the query is referred to a further target, the actual referral is not propagated or communicated to the further target that communicated to the originator. The reference, as viewed by the originator, will identify both the further target and the original target that performed the referral. In this way, referring cannot be performed anonymously.

At step **726**, the progressive return of target identifiers to the originator, responsive to the "knowledge sweep" query, is displayed to the originator within, for example, a Web page dynamically generated for the originator by the Web server **20** responsive to input from the knowledge site management server **27**.

At step **728**, the knowledge site management server **27** pools the referrals to a further target received from multiple targets in the second set targets. Accordingly, only a single identifier for the further target is displayed to the originator, but will indicate each of the targets of the second set of targets that referred to the further target.

At decision box **730**, a determination is made as to whether the "knowledge sweep" expanded query has expired. If not, the method **700** loops back to step **724**. This determination is made with reference to the expiration interval specified by the originator at step **714**. Alternatively, should the query have expired, the query is removed from an alert area of a Web page generated for each target of the second set, and the query is archived at step **732**. The method **700** terminates at step **734**.

Thus, a method and apparatus for querying a profile over a network have been described. Although the present invention has been described with reference to specific exemplary embodiments, it will be evident that various modifications and changes may be made to these embodiments without departing from the broader spirit and scope of the invention. Accordingly, the specification and drawings are to be regarded in an illustrative rather than a restrictive sense.

What is claimed is:

1. A method of querying a knowledge profile, the method including:

responsive to a query, including a query term, from an originator, accessing a public portion of a knowledge profile for each of a plurality of potential targets, the public portion of each knowledge profile including public knowledge terms indicative of a knowledge base of a potential target;

performing a first matching operation between the query term and the public knowledge terms within the public portion of each knowledge profile to identify a first set of targets for which a match exists between the query term and at least one public knowledge term;

publishing the first set of targets to the originator;

responsive to the query from the originator, accessing a private portion of a knowledge profile for each of the plurality of potential targets of the electronic document, the private portion of each knowledge profile including private knowledge terms indicative of a knowledge base of a potential target;

performing a second matching operation between the query term and the private knowledge terms within the private portion of each knowledge profile to identify a second set of targets for which a match exists between the query term and at least one private knowledge term; and

prompting each target of the second set of targets for authorization to be published to the originator.

2. The method of claim **1** including publishing a specific target of the second set of targets to the originator in response to an authorization grant from the specific target.

3. The method of claim **2** including progressively publishing respective targets of the second set to the originator in response to progressive authorizations received from targets of the second set of targets.

4. The method of claim **1** wherein each public knowledge term is identified by a confidence level above a predetermined minimum threshold.

5. The method of claim **1** wherein each private knowledge term is identified by a confidence level below a predetermined minimum threshold.

6. The method of claim **1** wherein each public knowledge term is identified by a user-specified public designation.

7. The method of claim **1** wherein each private knowledge term is identified by a user-specified private designation.

8. The method of claim **1** including removing a specific target from the second set of targets based on a query option specified by the originator.

9. The method of claim **8** wherein the second query option specifies a minimum confidence level for a match between the second query and a knowledge profile.

10. The method of claim **8** wherein the second query option specifies a maximum number of targets that may be included within the second set of targets.

11. The method of claim **8** wherein the query option specifies a minimum confidence level for a match between the query term and the private knowledge terms.

12. The method of claim **1** including withholding publication of a specific target of the second set of targets to the originator in response to an authorization denial from the specific target of the second set of targets.

13. The method of claim **1** including prompting each target of the second set of targets to refer the query to a further target.

14. The method of claim **13** including pooling referrals of the further target received from a plurality of targets of the second set of targets.

15. The method of claim 1 including specifying a query expiration interval with respect to the query after which the query is retired.

16. A computer readable medium storing a sequence of instructions that, when executed by a computer system, cause the computer system to:

responsive to a query, including a query term from an originator, access a public portion of a knowledge profile for each of a plurality of potential targets, the public portion of each knowledge profile including public knowledge terms indicative of a knowledge base of a potential target;

perform a first matching operation between the query term and public knowledge terms within the public knowledge portion of each knowledge profile to identify a first set of targets for which a match exists between the query term and at least one public knowledge term;

publish the first set of targets to the originator;

responsive to the query of the originator, access a private portion of a knowledge profile for each of the plurality of potential targets of the electronic document, the private portion of each knowledge profile including private knowledge terms indicative of a knowledge base of a potential target;

perform a second matching operation between the query term and the private knowledge terms within the private portion of each knowledge profile to identify a second set of targets for which a target exists between a knowledge term and at least one private knowledge term; and

prompt each target of the second set of targets for authorization to be published to the originator.

17. A system to query a knowledge profile, the system including:

a request handler to receive a query, including a query term, from an originator;

a comparator, responsive to the first query, to access both public and private portions of a knowledge profile for each of a plurality of potential targets, the public and private portions of each knowledge profile including respective public and private knowledge terms indicative of a knowledge base of a potential target, the comparator further to perform a first matching operation between the query term and public knowledge terms within the public knowledge terms within the public knowledge portion of each knowledge profile to identify a first set of targets for which a match exists between the query term and at least one public knowledge term, and to perform a second matching operation between the query term and the private knowledge terms within the private portion of the each knowledge profile to identify a second set of targets for which a match exists between a query term and at least one private knowledge term; and

a notifier to publish the first set of targets to the originator and to prompt each target of the second set of targets for authorization to be published to the originator.

18. The system of 17 wherein the notifier publishes a specific target of the second set of targets to the originator in response to an authorization grant from the specific target.

19. The system of claim 17 wherein the notifier is to progressively publish respective targets of the second set of targets to the originator in response to progressive authorizations received from the respective targets of the second set of targets.

20. The system of claim 17 wherein the comparator is to remove a specific target from the second set of targets based on a query option specified by the originator.

21. The system of claim 20 wherein the query option specifies a minimum conference level for a private knowledge term for a match with respect to the query term by the comparator.

22. The system of claim 17 wherein the notifier is to withhold publication of a specific target of the second set of targets to the originator in response to an authorization denial from the specific target of the second set of targets.

23. The system of claim 17 wherein the notifier is to prompt each target of the second set of targets to refer the query to a further target.

24. The system of claim 23 wherein the notifier is to pool referrals of the further target received from a plurality of targets of the second set of targets.

25. The system of claim 17 wherein the comparator is to retire the query after the expiration of a specified query interval.

26. A system to query a knowledge profile, the system including:

first means for receiving a query, including a query term, from an originator;

second means, responsive to the first query, for accessing both public and private portions of a knowledge profile for each of a plurality of potential targets, the public and private portions of each knowledge profile including respective public and private knowledge terms indicative of a knowledge base of a potential target, the second means further for performing a first matching operation between the query term and public knowledge terms within the public knowledge terms within the public knowledge portion of each knowledge profile to identify a first set of targets for which a match exists between the query term and at least one public knowledge term, and for performing a second matching operation between the query term and the private knowledge terms within the private portion of the each knowledge profile to identify a second set of targets for which a match exists between a query term and at least one private knowledge term; and

third means for publishing the first set of targets to the originator and for prompting each target of second set of targets for authorization to be published to the originator.

* * * * *

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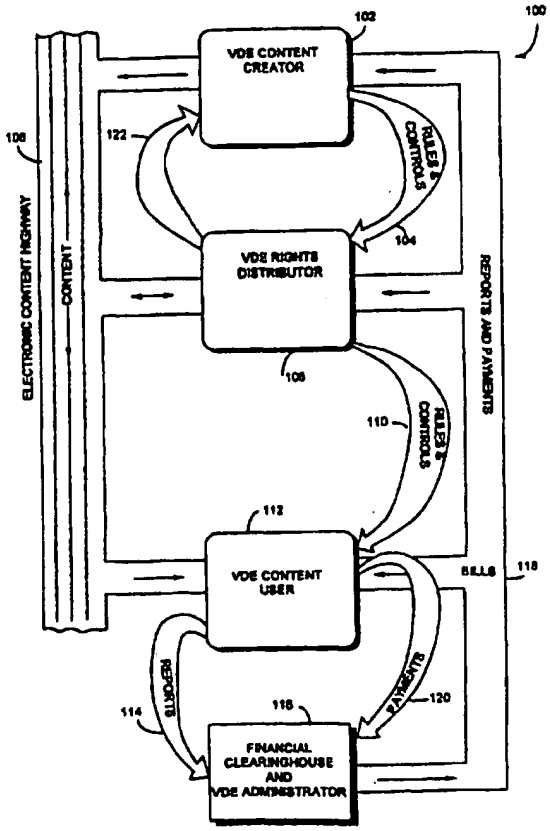
(54) Title: SYSTEMS AND METHODS FOR SECURE TRANSACTION MANAGEMENT AND ELECTRONIC RIGHTS PROTECTION

(57) Abstract

The present invention provides systems and methods for electronic commerce including secure transaction management and electronic rights protection. Electronic appliances such as computers employed in accordance with the present invention help to ensure that information is accessed and used only in authorized ways, and maintain the integrity, availability, and/or confidentiality of the information. Secure subsystems used with such electronic appliances provide a distributed virtual distribution environment (VDE) that may enforce a secure chain of handling and control, for example, to control and/or meter or otherwise monitor use of electronically stored or disseminated information. Such a virtual distribution environment may be used to protect rights of various participants in electronic commerce and other electronic or electronic-facilitated transactions. Secure distributed and other operating system environments and architectures, employing, for example, secure semiconductor processing arrangements that may establish secure, protected environments at each node. These techniques may be used to support an end-to-end electronic information distribution capability that may be used, for example, utilizing the "electronic highway".



28/3/137 (Item 137 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00413466 **Image available**
PERSONAL INFORMATION SECURITY AND EXCHANGE TOOL
OUTIL D'ECHANGE ET DE PROTECTION D'INFORMATIONS PERSONNELLES
Patent Applicant/Assignee:
CYVA RESEARCH CORPORATION,
Inventor(s):
O'NEIL Kevin,
SEIDMAN Glenn R,
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Patent: WO 9803927 A2 19980129
Application: WO 97US13309 19970722 (PCT/WO US9713309)
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Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
DE IL JP AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Publication Language: English
Fulltext Word Count: 34694

RELATED DOC. BENEATH

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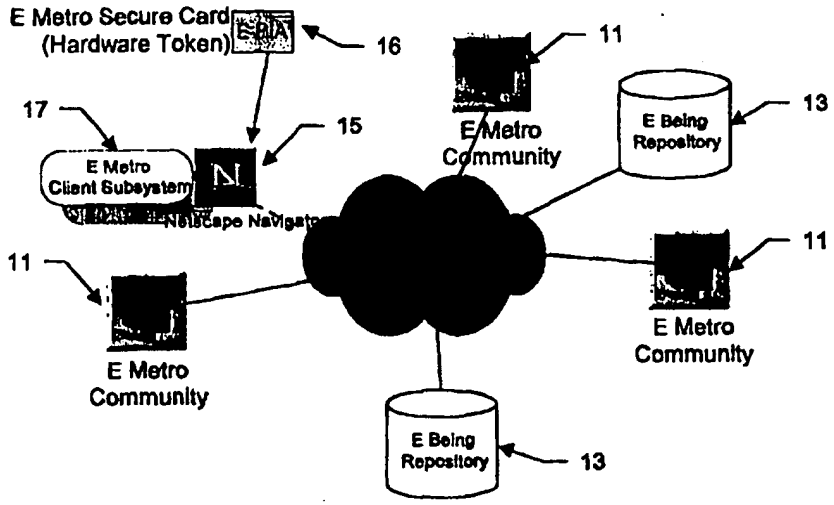

(57) Abstract

Utilization of the E-Metro Community and Personal Information Agents assure an effective and comprehensive agent-rule based command and control of informational assets in a networked computer environment. The concerns of informational privacy and informational self-determination are addressed squarely by the invention affording persons and entities a trusted means to author, secure, search, process, and exchange personal and/or confidential information in a networked computer environment. The formation of trusted electronic communities wherein members command and control their digital persona, exchanging or brokering for value the trusted utility of their informational assets is made possible by the invention. The present invention provides for the trusted utilization of personal data in electronic markets, providing both communities and individuals aggregate and individual rule-based control of the processing of their personal data.

28/3/144 (Item 144 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

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SYSTEMS AND METHODS FOR SECURE TRANSACTION MANAGEMENT AND ELECTRONIC RIGHTS PROTECTION
SYSTEMES ET PROCEDES DE GESTION SECURISEE DE TRANSACTIONS ET DE PROTECTION ELECTRONIQUE DES DROITS
Patent Applicant/Assignee:
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Inventor(s):
GINTER Karl L,
SHEAR Victor H,
SPAHN Francis J,
VAN WIE David M,
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AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN KE LS MW SD SZ UG AZ BY KG KZ RU TJ TM AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Publication Language: English
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RELATED DOC. BENEATH

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United States Patent [19]

Ginter et al.

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[54] SYSTEMS AND METHODS FOR SECURE TRANSACTION MANAGEMENT AND ELECTRONIC RIGHTS PROTECTION

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[73] Assignee: **InterTrust Technologies Corp.**, Sunnyvale, Calif.

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[58] **Field of Search** 380/4, 25, 24; 395/683, 684; 705/26

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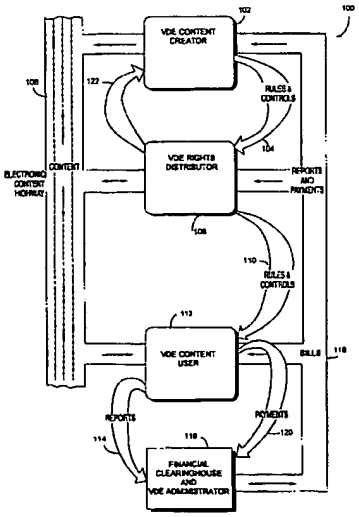
Primary Examiner—Gilberto Barron, Jr.

Attorney, Agent, or Firm—Nixon & Vanderhye P.C.

[57] **ABSTRACT**

The present invention provides systems and methods for secure transaction management and electronic rights protection. Electronic appliances such as computers equipped in accordance with the present invention help to ensure that information is accessed and used only in authorized ways, and maintain the integrity, availability, and/or confidentiality of the information. Such electronic appliances provide a distributed virtual distribution environment (VDE) that may enforce a secure chain of handling and control, for example, to control and/or meter or otherwise monitor use of electronically stored or disseminated information. Such a virtual distribution environment may be used to protect rights of various participants in electronic commerce and other electronic or electronic-facilitated transactions. Distributed and other operating systems, environments and architectures, such as, for example, those using tamper-resistant hardware-based processors, may establish security at each node. These techniques may be used to support an all-electronic information distribution, for example, utilizing the "electronic highway."

2 Claims, 146 Drawing Sheets



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Title: Matching People and Jobs.

Source: Management Services; Jun88, Vol. 32 Issue 6, p34, 2p

Document Type: Article

Subject Terms: *COMPUTER software
*JOB analysis
*OCCUPATIONS
*PEOPLE
PERSONALITY assessment
PERSONNEL departments -- Employees

NAICS/Industry Codes: 51121 Software Publishers

Abstract: A Cambridge-based company Belbin Associates has launched a new software package called Interplace, which assesses the suitability of people for different jobs within a firm. The package contains special assessment test material together with data about jobs to produce personality profiles and job profiles. If the personality profile does not fit the job profile, the appointment will not be a success, however well qualified the candidate may be. The aim of Interplace is not only to reduce misfits in jobs but also to identify talents of people who may have been overlooked. It also helps to avoid personal clashes in working relationships by advising on who works best with whom'. And by modifying job formats and functions personnel managers may experiment with matching staff to different job profiles.

ISSN: 0307-6768

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Persistent link to this record: http://search.epnet.com/login.aspx?direct=true&db=bch&an=12423171

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Title: Matching People and Jobs.

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Abstract: A Cambridge-based company Belbin Associates has launched a new software package called Interplace, which assesses the suitability of people for different jobs within a firm. The package contains special assessment test material together with data about jobs to produce personality profiles and job profiles. If the personality profile does not fit the job profile, the appointment will not be a success, however well qualified the candidate may be. The aim of Interplace is not only to reduce misfits in jobs but also to identify talents of people who may have been overlooked. It also helps to avoid personal clashes in working relationships by advising on who works best with whom'. And by modifying job formats and functions personnel managers may experiment with matching staff to different job profiles.

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